Investigating the Most Frequently Used and Most Useful Vocabulary Language Learning Strategies among Chinese EFL Postsecondary Students in Hong Kong

Paul Chi Hong Lip
(lipch@carlkn.edu.hk)
Caritas Institute for Further & Adult Education – Kowloon

Abstract

Learning vocabulary in the second language requires the use of vocabulary learning strategies which have been receiving much attention in the field of second language learning (Schmitt, 2000). The use of vocabulary learning strategies have accompanied the shift from the teacher-oriented to the learner-centered curriculum. In the Hong Kong context, Cheung (2004) claims that not much literature has been published in areas relating to learning and teaching vocabulary in Hong Kong classrooms. Furthermore, it seems there have been even less studies investigating the perceptions of Hong Kong learners’ towards the frequency and the usefulness of vocabulary learning strategies. In the present study, the researcher examined 36 postsecondary students’ responses to a questionnaire (adapted from Cheung, 2004) in a postsecondary institution in Hong Kong on the frequency of their use of vocabulary learning strategies and their perception of the strategies’ usefulness. The results show that the frequency of vocabulary learning strategy use did have an influence on postsecondary students’ choices in choosing the most useful vocabulary strategies in their responses. The most frequently used and most useful vocabulary learning strategies from the questionnaire results were as follows: 1) spelling the word in the mind repeatedly; 2) analyzing the word by breaking down the sound segments; and 3) remembering words by doing a project; and 4) asking classmates for the meaning of the word. Follow-up structured interviews were carried out with 10 students probing their reasons for their preferences in choosing the most useful vocabulary learning strategies.

1 Introduction

A number of studies have been conducted in the past to investigate the usage of vocabulary learning strategies (VLS) by Chinese EFL learners (e.g. see Cheung, 2005; Cheung, 2004; Lau, 2004; Lau, 2002; Law, 2003; Li, 2005; Lo, 2007; Mui, 2004; Ng, 2004; Shek, 2007; Szeto, 2007; Wu, 2008; Wu, 2005). Cheung (2004) highlights that vocabulary represents a serious dilemma for most Chinese English as a Foreign Language (EFL) learners in Hong Kong and there is still debate on how learners could learn vocabulary effectively. Reports from the Hong Kong Certificate of Education Examination (HKCEE) Board have indicated that Chinese EFL students were limited in their vocabulary use and had problems with spelling, which has in turn led to frustration in using the four skills (reading, speaking, reading, and writing) when taking the English Language Examination (Cheung, 2004). The HKCEE situation has generated the impression of a “limited vocabulary tank of Hong Kong students” (Cheung, 2004, p. 4). It is vital to gain more insights into how Chinese EFL learners perceive the use of VLS to help them to learn vocabulary.
This article reports findings from a study on the perceptions of a group of postsecondary Hong Kong Chinese EFL learners with regard to their personal use of VLS.

1.1 Literature review

This section provides a definition of VLS, which is followed by a review of studies that have investigated the perceptions of Chinese EFL learners about their use of VLS.

1.1.1 Defining vocabulary learning strategies

VLS such as memorizing, repeating and taking notes on lexical words are commonly used (Schmitt, 2000). Schmitt observes that beginners use ‘shallow’ strategies for vocabulary learning such as memorization and repetition, and advanced learners use ‘deeper’ strategies such as consolidation and determination strategies (p. 132).

The question whether learners will use VLS depends on a number of factors such as motivation, proficiency and culture (Schmitt, 2000). For example, culture can affect their preference for particular learning strategies (Schmitt, 2000). In Hong Kong, most learners are used to rote learning and would not be able to get used to a new strategy (Schmitt, 2000). Another crucial factor is to convince the students of the need for strategy training, as a previous study has shown that learners who had not undergone strategy training had performed worse than learners who used their own rote-learning techniques (O’Malley & Chamot, 1990, as cited in Schmitt, 2000). Proficiency is also important because novice learners might be restricted to the use of word lists, while advanced learners might guess the meaning of words from the text (Cohen & Aphek, 1981, cited in Schmitt, 2000).

Schmitt (2000) compiled a list of VLS categorized according to the following two purposes: 1) strategies that discover a new word’s meaning; and 2) strategies that consolidate a word once it has been encountered.

Below is a list of VLS from Schmitt’s (2002) taxonomy, which includes a variety of different strategies, all important skills in the learner’s process:

**Determination strategies** are individual learning strategies, which help learners to discover the meaning of words by themselves with no assistance from peers, such as guessing the words from the context (Schmitt, 2000).

**Social strategies** engage learners in interaction with their peers, and this helps them to learn from each other, such as observing their classmates and asking their teacher for the meaning of a word (Schmitt, 2000).

**Memory strategies** are strategies, which engage learners in learning the new word through mental processing by associating their existing or background knowledge with the new word (Schmitt, 2000). For example, if the learner comes across the word “cat”, the learner can group the word “cat” under the category of a four-legged animal because the learner already knows the image of these four-legged animals from his/her background knowledge. Another example is that the learner sees a particular action from a kind of sports on TV and guesses the name of the sport because he/she already remembers the actions associated with that sport.

**Cognitive strategies** do not engage learners in mental processing but is more mechanical. An example is repeating the pronunciation of new words (Schmitt, 2000).

**Metacognitive strategies** are strategies relating to processes involving monitoring, decision-making, and evaluation of one’s progress. Metacognitive strategies help the learner in determining appropriate VLS for learning new words (Schmitt, 2000).
1.1.2 Review of studies on Chinese EFL learners’ perceptions of vocabulary learning strategies

Quite a number of experimental studies have been conducted in Hong Kong on the effectiveness of different VLS for Chinese EFL learners at the secondary level in improving their vocabulary learning (e.g. see Cheung, 2005; Cheung, 2004; Lau, 2004; Lau, 2002; Law, 2003; Lo, 2007; Mui, 2004; Ng, 2004).

Some studies have investigated Chinese EFL learners’ perceptions through the use of surveys/questionnaires or interviews about their use of VLS. For example, Wu (2005) conducted a study to investigate the VLS used by 203 Taiwanese EFL secondary and university students. A questionnaire which included VLS based on Schmitt's (1997) taxonomy was administered. The VLS were categorized in the following groups: metacognitive, social, memory, cognitive and determination strategies. The questionnaire was distributed to secondary school students (90 eighth graders and 90 eleventh graders) and 112 university year 2 English major students. The results reveal that most students used the following discovery strategies: 1) using bilingual dictionaries to find out Chinese translations of English words; 2) guessing from textual context; and 3) asking classmates for the meaning of words. As for consolidating strategies, the following strategies were most popular among the students: 1) studying the sound of a word; and 2) repeating a word’s form. According to Wu (2005), traditional methods of rote learning such as memorizing words and grammatical forms of the words in word lists still exist in Taiwan.

Li (2005) conducted an investigative study on the learning beliefs of Chinese EFL university learners with regard to rote learning as a VLS. 100 copies of a questionnaire were distributed to learners who were English majors from a university in a province of China. The results show that the learners had a strong Chinese cultural belief rooted in Confucianism and preferred practising, memorizing, reviewing and repetition. A factor analysis of 28 items in the questionnaire shows clearly that Chinese learners believe that rote learning involves association strategies, perseverance strategies, memory strategies, exam practice and repetition etc. Factors that shaped their perceptions of rote learning were: 1) Chinese background or language background; 2) the English learning environment; 3) the demands of examinations; and 4) personal habits in learning. The findings further imply that this learning culture among the Chinese EFL university learners can be attributed to cultural learning traditions in China, which have their roots in Confucius’ teachings. It appears that both studies from China and Taiwan reflect the rote learning culture of Chinese EFL learners who value repetition and practice in achieving their learning goals.

Wu (2008) investigated the language learning strategy use of 10 vocational ESL Chinese language learners from a vocational institute in Hong Kong. The learners were randomly selected from 16 classes (22 students each) and all had attempted their HKCEE examination and completed their Form 5 studies. An interview of 30 minutes was conducted with each of the 10 learners on a one-to-one basis and their responses were recorded with a tape recorder and transcribed. The researcher analyzed the transcriptions and categorized the number of learner responses to each type of strategy based on O'Malley and Chamot’s taxonomy of language learning strategies. The results show that the learners favoured the use of social affective strategies (questioning for clarification, co-operation, and positive talk) more than cognitive (grouping, note-taking, summarizing, and translation) and metacognitive strategies (organization, advance preparation, organizational planning and self-management). The findings also reveal that learners used auditory representation, selective attention (e.g. paying attention to keywords in spoken English), mental rehearsal (e.g. saying the word in the mind before speaking the word), imagery (use of pictures to remember new words), auditory representation (e.g. dividing the sound segments of the word to learn pronunciation), co-operation (e.g. working with peers), and checking the dictionary to find out the meaning of words.

Lo (2007) conducted a qualitative study to find out the perceptions of low achieving Chinese EFL learners from a secondary school in Hong Kong. It sought to establish what VLS they perceive to be useful and they frequently used. 34 Form 2 students were given a pre-questionnaire (adapted from Cheung, 2004), which was one of the research instruments used to investigate the
students’ perceptions of VLS in terms of their usefulness and the frequency of use. The questionnaire contained a list of 19 VLS for students to choose, using 5-point Likert scales to indicate the frequency (Never=1 to Always=5) and usefulness (Not Useful=1 to Extremely Useful=5). The following VLS were most frequently used and found to be most useful by students: 1) repeatedly spelling the words; 2) taking notes in vocabulary textbooks; 3) repeating and reviewing strategies; and 4) analyzing strategies.

It appears that most vocabulary studies in Hong Kong have been experimental studies where researchers have tried out different vocabulary language learning tasks to see if these would have an effect on secondary Chinese EFL students’ learning of vocabulary. However, there seems to be only a few studies, which have actually investigated postsecondary Chinese EFL students’ perceptions of the VLS that they actually use and find useful. Although Wu’s study (2008) investigated postsecondary Hong Kong Chinese EFL students’ perceptions of the language learning strategies they found useful, his study only involved 10 participants which represent too small a sample to produce conclusive findings about Chinese EFL learners’ views about VLS; also, his study looked at language learning strategies in general and did not focus entirely on VLS. There also appears to be a lack of studies which investigate if there was a relationship between students’ frequency of VLS use and their perceptions of the usefulness of the VLS. There is thus scope to investigate what VLS Chinese EFL postsecondary learners actually use and find useful in the Hong Kong context.

1.1.3 Purpose of study

The purpose of the study was to investigate the perceptions of postsecondary Chinese EFL students towards the VLS they frequently use and those which they find useful.

The specific research questions explored in the present study are listed below.
1. Is Hong Kong Chinese EFL postsecondary students’ frequency of VLS use related to their perceptions about the usefulness of VLS?
2. What are the most useful VLS in the perceptions of Hong Kong Chinese EFL postsecondary students? Why?

2 Methodology

This section introduces the participants, research instruments and data analysis methods used in the research study.

2.1 Participants

The present study involved 36 Cantonese-speaking Chinese students in a postsecondary institution in Hong Kong for whom English is a foreign language. The students had completed their Hong Kong Certificate in Education (HKCEE) and were taking a postsecondary English course as part of a Pre-Associate degree programme (equivalent to Form 6 level) run by the institute. 20 were females and 16 were males. Their mean age was 17. The number of instructional hours for the course was 45 hours and the curriculum was grammar-based. The researcher obtained the consent of all students to participate in the study. They were all informed that the study was for research purposes only and they were assured that their identities would be kept anonymous.

2.2 Data collection and procedure

The questionnaire used for the study was adapted from Cheung (2004) and based on Schmitt’s (2004) taxonomy of VLS. It included the following: five statements on cognitive strategies (COG), ten statements on memory strategies (MEM), nine statements on determination strategies (DET) and three social strategies (SOC) in vocabulary learning. The frequency of use and their usefulness were measured by 5-point Likert scales (1=Never to 5=Always; 1=Not Useful to 5=Extremely
Useful). The researcher adapted Cheung’s (2004) questionnaire, as Cheung used Schmitt’s list of VLS, and re-organized all the strategies according to Schmitt’s taxonomy; this was helpful to the researcher in categorizing the VLS in his questionnaire for analysis.

The questionnaire was administrated to 36 students during a regular English lesson where the researcher was also the teacher of the lesson in December 2007.

After a week, the researcher conducted structured interviews with ten of the students by phone (consent was obtained by the researcher to call the students) to further investigate the reasons behind their choice of the most useful VLS as indicated by the questionnaire findings (see Appendix B). The ten students were selected as they represented different academic abilities based on their quiz results in the first semester. There was a top-ranked (three students), a middle-ranked (three students) and a lower-ranked group (four students). All subjects were made anonymous and labeled (A-J) in the study.

All interviews were conducted in Cantonese, the first language of the student interviewees, to assure their comprehension of the questions. The study was conducted within one month.

2.3 Data analysis

The mean scores and standard deviations of the ratings given by the students on the frequency of use and the perceived usefulness of the 27 VLS were calculated and compared. Pearson product-moment correlation coefficients were calculated to ascertain if there were any significant relationships between the frequency of use and perceived usefulness of the VLS included in the current study. Statistical analysis was carried out using SPSS. All results are presented in Appendix A. The qualitative data from the structured interviews were recorded, translated, transcribed and quantified under various themes.

3 Results

This section will report on the results of the analysis of the questionnaire and interview data, and attempt to answer the two research questions set out above.

3.1 Relationship between frequency use and perceived usefulness of vocabulary learning strategies

Table 1 shows the means, standard deviations, and correlation coefficients of the four most frequently used and most useful VLS, as rated by the students. To answer the first question on whether Hong Kong Chinese EFL postsecondary students’ frequency of VLS use is related to their perceptions about the usefulness of VLS, a number of VLS used by the students with high frequency had strong and significant correlative relationships their perceived usefulness (see Table 1).

For example, the highest mean in the frequency of use (M=2.58 on a 5-point scale) and the highest mean (M=2.55 on a five point scale) in the perceived usefulness were achieved by strategy item 5 “Analyzing the word by breaking it into sound segments” with a strong, significant correlative relationship (r=.956, p<0.01). Strategy item 2 “I repetitively spell the word in my mind” reaches the second highest mean of 2.53 for the frequency of use and the second highest mean of 2.45 for the perceived usefulness. Both variables are strongly and significantly correlated (r=.895, p<0.01). Similarly, “Asking classmates for the meaning of the word” (Item 27) achieves the third highest mean of 2.39 in terms of frequency of use and a mean of 2.44 for perceived usefulness with a strong significant correlation (r=.917). The average mean score of the four most frequently used and most useful VLS was 2.48 for frequency of use and 2.47 for perceived usefulness.
The results suggest that there is a strong correlation between the frequency of VLS use and their perceived usefulness. From the results, it is clear that students who frequently used a VLS would view that strategy as a very useful strategy to use. The converse also seems to be true. The average of the mean ratings for the frequency of use for low frequency items (e.g. item 3, 7, 11; see Appendix A), all with means lower than 2, is 1.85. In terms of their perceived usefulness, the average of the means is 2.04 and their correlations were significant. These ratings are much lower than the average means for the four most frequently used and most useful VLS reported above.

### 3.2 Most useful vocabulary learning strategies

To answer the second research question, in the students’ perceptions, the most useful of the 23 VLS are the following items with an average mean of 2.5 (see Table 1 and Appendix A): 1) I analyze it by breaking it into sound segments (Item 5, M=2.55); 2) I repeatedly spell the word in my mind (Item 2, M=2.45); 3) Ask classmates for the meaning of a word (Item 27, M=2.44); and 4) I remember words by doing a project (Item 18, M=2.42). The VLS are ordered according to the level of usefulness from high to low (see Table 1). In order to find out the reasons for students’ perceptions of the usefulness of these four VLS, structured interviews were carried out with 10 students, the results of which are stated in the following.

### 3.2.1 Item 2: Repeating the spelling of the word in the mind

All the students (N=10) said that they think VLS item 2 (see Appendix A & Table 1) was helpful as they could remember the spelling of the words in their minds more easily and didn’t need to write it down. They also think this was a good habit of learning as they can spell in their minds at any place without disturbing others. For example, here are comments from some students to support the use of this strategy:

I like repeating the words in my mind. I can remember and learn the word better. Besides, you don’t have to be afraid of disturbing the people around you when you speak your mind. (Student A)

This strategy is quite useful. I can repeat the word in my mind and when you repeat the word more times in your mind, you can remember much better. Also, speaking in your mind is the best if you are studying in a place where you need to be quiet such as the library. You don’t need to be afraid of disturbing them. (Student B)
3.2.2 Item 5: Analyzing and breaking the word into sound segments

All the students (N=10) said VLS item 5 (see Appendix A) was useful as they could easily pronounce the word parts in different segments which helped them to remember the spelling of the word. For example, student C shared his experience of listening to the words carefully in segments when doing a dictation or listening test:

It is easy to follow. For example, when my teacher said the word ‘vocabulary’ but say it slowly ‘Vo…ca…bu…lary’ I can know how to pronounce and spell the word. (Student C)

When I was in secondary school, my English teacher would read the story to the students and pronounce some important key words slowly in syllables. I found that breaking the sounds of the word would make me understand and listen better. (Student D)

3.2.3 Item 18: Remembering words by doing a project

All the students (N=10) thought that VLS item 18 (see Appendix A) was useful as doing projects could help them to learn vocabulary, as they need to search for information about the words, use the words in their group discussions and make sure that the words are correct because they need to present them in class. For example, Student E shared his experience of doing a group project by saying that he would need to search for the meaning of the word on a website and make sure that he understood and practised the word so that he could present the word to his classmates:

Of course you learn vocabulary when doing group presentations. I need to search the pronunciation and the meaning of the word up on the Web and check the Chinese meaning of the word and use it for my oral presentation. I have to make sure that I understand and check if I can pronounce the word as I need to present it to my classmates. (Student E)

Student F highlighted the importance of doing research on the Web and searching for the meaning of words in an online dictionary:

There are many words to search and look for the meaning when we write the group report. I have to search the Web and check the online dictionary. The Yahoo dictionary is very useful. There is Chinese translation to the English word. I can check the meaning instantly.” (Student F)

3.2.4 Item 27: Asking classmates for meaning of words

All the students (N=10) said that VLS item 27 was useful as they always liked to ask classmates for the meaning of the words so that they could exchange information, and learn from each other. For example, Student G shared his experience of asking his classmates as a source of help for the meaning of new vocabulary:

I always ask my classmate if I don’t understand the word. We can learn from each other. I would always teach my classmates the word if they don’t understand. (Student G)

Student H also mentioned that he learned new words by discussing with and learning from group mates who were smarter than him.

In my group, I learnt a lot of vocabulary from my group mates. Some of my group mates were very smart and they taught me how to use and say the word clearly for our group presentation. (Student H)
4 Discussion and conclusion

The study has answered the first research question and arrived at the result that the frequency of VLS use among postsecondary EFL Chinese students is positively and significantly correlated with their perceptions about the usefulness of the VLS. It seems that learners who often use a VLS would regard it as a very useful strategy to use. The more often a learner uses a strategy, the more useful he/she will find it for learning vocabulary. The study has answered the second research question and found that the most useful vocabulary strategies in the perceptions of the postsecondary Chinese EFL students in this study are as follows: 1) Repeating the spelling of the word in their minds; 2) Analyzing the word by breaking it into sound segments; 3) Remembering words by doing a project; and 4) Asking classmates for the meaning of a word.

The tendency of the students in this study to favour the use of cognitive strategies for repeating the words in their mind may be explained by the cultural influence of Confucianism which value effort and perseverance (Marton, Dall’Alba & Tse, 1996 as cited in Wu, 2008).

The questionnaire results of this study are consistent with those of prior studies on VLS in Hong Kong and other parts of Asia. For example, the findings from this study about students favouring the strategy of spelling words in their minds was similar to that from Lo ‘s (2007) study. It was interesting to note that both studies used the same questionnaire adapted from Cheung (2004), but the students in Lo’s study were Chinese EFL secondary students, while the students in this study were Chinese EFL postsecondary students. This suggests the possibility that Chinese EFL learners still make use of repetition to learn vocabulary in the mind beyond the secondary level in the Hong Kong context. With regard to learners beyond Hong Kong, Wu’s (2005) study also produced similar results to this study, as the Taiwanese EFL university learners in his study also liked repeating a word’s form. This observation about students favouring the use of repetition strategies was even clearer in Li ‘s study where her subjects, consisting of 100 Chinese EFL university students, favoured the use of rote learning which encompasses the notion of repetition, practice and reviewing under the influence of Confucianism. The importance of repetition seems to be considered by Chinese EFL learners to be an effective strategy in learning vocabulary. Lo claims that words can be easily learned by learners and committed to long term memory after repeating them several times.

One of the VLS considered most useful by the Chinese EFL learners in this study was “Analyzing the sound segments of a word”. This finding is consistent with the studies conducted by Wu (2008) and Wu (2005), in which Chinese learners were found to favour the method of studying the sounds of the words. In the interviews conducted in the current study, one of the students mentioned that it was important to search for the meaning of the words on the Web, which involved the use an online dictionary; this finding is similar to those from Wu’s (2005) and Wu’s (2008) studies. The learners in their studies also liked searching the dictionary to find the meaning of words. Another VLS considered highly useful in the current study is “asking classmates the meaning of the words”; this finding is also consistent with those from Wu’s (2008) study, whose subjects valued the importance of co-operation in learning words. The current study reveals many similar learning characteristics among Chinese EFL learners, most notably the cultural tradition of repetition which may have been passed on through the generations, influenced by the Confucian principle of learning. On the issue of strategies which students felt were useful but were not used by them, this may be due to the purpose or the situation. For example, Student C mentioned in the interview that, for a dictation, he would try to use determination strategies by analyzing the sound segments of the word “vocabulary” (segmented as “vo…ca…bu…lary”) in order to determine the pronunciation and spelling of the word.

Future studies could investigate whether junior form Chinese students (Form 1-3) in Hong Kong have the same VLS preferences and use or find similar strategies useful for their vocabulary learning, as the students in the current study were post-secondary students (Form 6 level). The findings of these studies will provide language teachers with deeper insights into how to design more effective vocabulary learning tasks to suit Chinese learners at different levels. The findings
of this study cannot be conclusive. An obvious implication is therefore that more studies with much larger sample sizes are necessary.

**References**


**Appendices**

**Appendix A**

The frequency of use and the perceived usefulness of various VLS among Chinese EFL postsecondary students

<table>
<thead>
<tr>
<th>Vocabulary Learning Strategies (VLS) (N=36)</th>
<th>Frequency</th>
<th>Usefulness</th>
<th>Correlation Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (M)</td>
<td>Standard Deviation (SD)</td>
<td>Mean (M)</td>
</tr>
<tr>
<td>COG1 I repeatedly say the word in my mind frequently.</td>
<td>2.36</td>
<td>0.49</td>
<td>2.33</td>
</tr>
<tr>
<td>COG2 I repeatedly spell the word in my mind.</td>
<td>2.53</td>
<td>0.51</td>
<td>2.45</td>
</tr>
<tr>
<td>COG3 I repeatedly say the word aloud.</td>
<td>1.89</td>
<td>0.71</td>
<td>2.06</td>
</tr>
<tr>
<td>COG4 I repeatedly write the word.</td>
<td>2.25</td>
<td>0.65</td>
<td>2.25</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Mean 1</td>
<td>SD 1</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------------------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>DET5</td>
<td>I analyze the word by breaking it into sound segments.</td>
<td>2.58</td>
<td>0.50</td>
</tr>
<tr>
<td>DET6</td>
<td>I analyze the word by breaking it into meaningful parts.</td>
<td>2.06</td>
<td>0.67</td>
</tr>
<tr>
<td>MEM7</td>
<td>I link the word to a visual image in my mind.</td>
<td>1.92</td>
<td>0.77</td>
</tr>
<tr>
<td>MEM8</td>
<td>I link the word to another English word with similar sound.</td>
<td>2.00</td>
<td>0.68</td>
</tr>
<tr>
<td>MEM9</td>
<td>I link the word to a Chinese word with similar sound.</td>
<td>2.11</td>
<td>0.67</td>
</tr>
<tr>
<td>MEM10</td>
<td>I use sound and meaning associations.</td>
<td>2.14</td>
<td>0.72</td>
</tr>
<tr>
<td>MEM11</td>
<td>I group words together with storyline.</td>
<td>1.75</td>
<td>0.73</td>
</tr>
<tr>
<td>MEM12</td>
<td>I remember the sentence in which the word is used.</td>
<td>2.02</td>
<td>0.47</td>
</tr>
<tr>
<td>MEM13</td>
<td>I remember the new word together with the context where the new word occurs.</td>
<td>2.06</td>
<td>0.53</td>
</tr>
<tr>
<td>DET14</td>
<td>I make up my own sentences using the new word.</td>
<td>2.08</td>
<td>0.65</td>
</tr>
<tr>
<td>MEM15</td>
<td>I try to use newly learned words in imaginary situations in my mind.</td>
<td>2.19</td>
<td>0.67</td>
</tr>
<tr>
<td>MET16</td>
<td>I remember words by doing dictations.</td>
<td>2.28</td>
<td>0.66</td>
</tr>
<tr>
<td>MEM17</td>
<td>I remember words by doing group work activities in class.</td>
<td>2.19</td>
<td>0.42</td>
</tr>
<tr>
<td>COG18</td>
<td>I remember words by doing a project.</td>
<td>2.42</td>
<td>0.50</td>
</tr>
<tr>
<td>DET19</td>
<td>Analyze the part of speech of the new word</td>
<td>2.17</td>
<td>0.56</td>
</tr>
<tr>
<td>DET20</td>
<td>Analyze the affixes and roots of the new word</td>
<td>2.14</td>
<td>0.59</td>
</tr>
<tr>
<td>DET21</td>
<td>Check for the LI meaning of new English word</td>
<td>2.33</td>
<td>0.54</td>
</tr>
<tr>
<td>DET22</td>
<td>Analyze any available pictures or gestures to guess the word</td>
<td>2.02</td>
<td>0.51</td>
</tr>
<tr>
<td>DET23</td>
<td>Guess the meaning of the new word from the story</td>
<td>2.11</td>
<td>0.58</td>
</tr>
<tr>
<td>DET24</td>
<td>Use a dictionary to check the words</td>
<td>2.31</td>
<td>0.57</td>
</tr>
<tr>
<td>SOC25</td>
<td>Ask teacher for the new word's synonym.</td>
<td>2.22</td>
<td>0.59</td>
</tr>
<tr>
<td>SOC26</td>
<td>Ask teacher for a synonym, paraphrase, translation</td>
<td>2.17</td>
<td>0.61</td>
</tr>
<tr>
<td>SOC27</td>
<td>Ask classmates for meaning of the word</td>
<td>2.39</td>
<td>0.60</td>
</tr>
</tbody>
</table>

*p<0.01 Correlation is significant at the 0.01 level (2-tailed).
Appendix B

Student interview questions

1. Why do you find repeatedly spelling the word in your mind useful/not useful?
2. Why do you find analyzing the word by breaking the word into sound segments useful/not useful?
3. Why do you find remembering words by doing a project useful/not useful?
4. Why do you find asking classmates for meaning of the word useful/not useful?